

Amendments to the Claims

Please amend claims as shown below.

Claims 1. – 16. (Canceled)

17. (New) A device useful for dispensing a liquid comprising:
a plurality of needles, said needles each including a sharpened end;
a base including bores in which the needles are at least partially inserted
and said sharpened end extends outwardly therefrom,
a cap sealingly mounted to the base and forming a plenum space with the
base, the plenum space, the plenum space thereby creating passageway in fluid
communication with the needles.

18. (New) A device in accordance with Claim 17, wherein said plurality of
needles are distributed radially around a central axis.

19. (New) A device according to claim 18 wherein said needles include a first
bend proximate the point at which each needle extends out of the base.

20. (New) A device in accordance with Claim 19 wherein said needles include
a second bend proximate their sharpened end.

21. (New) A device in accordance with Claim 17, wherein the needle ends
extend outwardly from the base a distance between about 0.5 mm and about 3.0 mm.

22. (New) A device in accordance with Claim 20, wherein said second bend is generally between 1 degree and 25 degrees.

23. (New) A device in accordance with claim 22, wherein the bent portion of the needle.

24. (New) A device according to claim 17 wherein the needle ends are bent generally at a 90 degree angle.

25. (New) A device in accordance with Claim 17, wherein the needles are dimensioned to penetrate skin to a depth that goes beyond the superficial vascular plexus, but not as deep as the deep vascular plexus.

26. (New) A device for infusing a liquid, comprising:
a hub dimensioned to be positioned against the skin;
a plurality of needles extending from the hub, the needles being dimensioned to penetrate the skin to a depth that goes beyond the superficial vascular plexus, but not as deep as the deep vascular plexus; and
a connecting tube attached to the hub, the connecting tube being in fluid communication with the plurality of needles.

27. (New) The device of Claim 26, further comprising: an infusion device in fluid communication with the connecting tube.

28. (New) The device of Claim 27, wherein the infusion device is a pump.

29. (New) The device of Claim 27, wherein the hub comprises:
a base in which the needles are received; and
a cap mounted to the base, wherein a fluid chamber is formed between the base and the cap, and wherein the plurality of needles are in fluid communication with the fluid chamber, and wherein the connecting tube is in fluid communication with the fluid chamber.

30. (New) The device of Claim 27, wherein the needles are arranged in an array.

31. (New) The device of Claim 26, wherein the needles extend beyond the base a distance dimensioned to form an interstitial pocket in the skin.

32. (New) The device of Claim 26, wherein the needle extend into the skin a distance between generally 0.5 mm to 4.0 mm from the hub.

33. (New) An integrated infusion system comprising:
- a) a pump
 - b) a reservoir for storing fluid
 - c) an infusion set integrated with said pump, said infusion set comprising
- at least one needle, the at least one needle including a sharpened end;
- a base including bores in which the needle extend outwardly therefrom,
- the base including space to which the bores extend;
- a fluid pathway connecting the bores to said reservoir.
34. (New) The insulin pump of Claim 33 further comprising an adhesive layer configured to attach the integrated system to the skin
35. (New) An integrated wearable infusion device comprising:
- a skin interface unit having two or more infusion pathways for supplying a fluid into the skin;
- a pump integrated to said skin interface.
36. (New) The integrated device of Claim 35 further comprising an adhesive layer attached to the interface unit to maintain said unit attached to the skin.
37. (New) The integrated device of Claim 35 wherein the infusion pathway comprises two or more needles.

38. (New) The integrated device of Claim 35 wherein the infusion pathway extends into the skin beyond the superficial vascular plexus but not as deep as the deep vascular plexus.

39. (New) The integrated device of Claim 35 wherein the skin interface device is removable from the pump and may be replaced.

40. (New) An integrated infusion device comprising:

- a) a skin interface unit having two or more infusion pathways for supplying a fluid into the skin;
- b) a pump integral to said skin interface and attached to said skin interface said pump including a pumping mechanism capable of pumping fluid in indexable discrete steps, to provide stepwise infusing of fluid into the skin through said skin interface unit.

41. (New) The device of claim 40 wherein said indexed pumping is responsive to externally generated commands.

42. (New) The device of claim 40 wherein said pumping mechanism includes a solenoid.

43. (New) The device according to claim 41 wherein said pumping mechanism includes a feedback system for confirming that an indexed pump step has occurred.

44. (New) The device according to claim 40 wherein said pumping mechanism includes a flexible drive shaft.

45 (New) The integrated pump of Claim 40 further comprising an adhesive layer attached to the integrated pump such that device can stay attached to the skin.

46 (New) The integrated device of Claim 40 wherein the infusion pathway comprises two or more needles.

47. (New) The integrated device of Claim 40 wherein the infusion pathway extends beyond the superficial vascular plexus but not as deep as the deep vascular plexus.

48. (New) The integrated device of Claim 46 wherein the needles are bent on the end to form a small pocket in the tissue.

49. (New) The integrated device of Claim 40 wherein the pump is controlled by a microactuator.

50. (New) The integrated device of Claim 40 wherein the pump has a flexible shaft driving a plunger.

51. (New) The integrated device of Claim 40 wherein the pump mechanism is fabricated using MEMS technology.

52. (New) The integrated device of Claim 40 wherein the pump has a feedback signal to indicate the position of the indexing actuator.

53. (New) The integrated device of Claim 40 wherein the pump is interfaced to a disposable reservoir.

54. (New) The integrated device of Claim 40 wherein the skin interface device is designed to be replaceable.

55. (New) A method of manufacturing a device for infusing fluids through a least one needle having a base, a cap and at least one need having its sharpened end extending from the interior of the base to a point outside the base, the method comprising applying pressure to the base and cap to cause the cap to bend that portion of the needle which extends beyond the base to be bent in response to impingement by the cap.

56. (New) A method according to claim 55 wherein the method includes the step of creating a snap fit closure between the base and cap to maintain said needles stationary after bending.

57. (New) A method according to claim 55 wherein the method includes the step of aligning an array of needles in said base, each with a portion extending outside the base and causing said portions to bend simultaneously when the cap is applied to the base.